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EXAMINER	
MISLEH, JUSTIN P	
ART UNIT	PAPER NUMBER
2612	

DATE MAILED: 06/17/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/768,507	SUEMOTO ET AL.	
	Examiner	Art Unit	
	Justin P. Misleh	2612	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *25 January 2005*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1 - 4 and 11 - 20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1- 4, 11 - 14, and 16 - 20* is/are rejected.

7)☒ Claim(s) *15* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *25 January 2005* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed 25 Jan. 2005 have been fully considered but they are not persuasive.

2. Applicant argues, "Anderson fails to disclose determining, during power initiation, whether or not an amount of voltage decrease from the electric power caused by an operation of a driving motor less than a predetermined value."

3. First, it is noted that Applicant attacks Anderson et al. individually and not in combination with Takeshita as presented in the Non-Final Office Action (30 October 20004). Thus, in response, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

4. Second, Applicant's arguments regarding Anderson et al. are misplaced. Turning to the Office Action:

The Examiner relied upon Takeshita to disclose a power initiation sequence that moves a lens barrel from a retracted position to an extended position (i.e. initialization position), via a DC motor and a stepping motor, wherein the lens barrel includes a lens cover, a zoom lens group, and a focus lens group. The Examiner also noted that during said power initiation sequence (which includes operation of one of said DC motor and stepping motor), Takeshita does not disclose determining whether a voltage decrease of the power source is less than a predetermined value. In addition to Takeshita, the Examiner introduced Anderson et al. More specifically, the

Examiner pointed out that Anderson et al. teaches of a power initiation sequence for a camera that determines an appropriate power state of a plurality of power states for operating the camera wherein one of said power states includes a power state for operating zooming and focusing motors simultaneously. Finally, the Examiner stated that according to Anderson, at the time the invention was made, one with ordinary skill in the art would have included the power initiation sequence of Anderson for the advantage of automatically compensating for the effects of power supply degradation so as optimize camera performance.

5. Hence, Anderson et al. was not specifically and solely relied upon to specifically teach "determining, during power initiation, whether or not an amount of voltage decrease from the electric power caused by an operation of a driving motor less than a predetermined value," as alleged by Applicant. Rather the combined teachings Takeshita in view of Anderson et al. suggest "determining, during power initiation, whether or not an amount of voltage decrease from the electric power caused by an operation of a driving motor less than a predetermined value" to those of ordinary skill in the art. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7. **Claims 1 – 3, 11 – 13, and 16 – 18** are rejected under 35 U.S.C. 103(a) as being unpatentable over Takeshita in view of Anderson et al. The Examiner's response above is fully incorporated in these rejections.

8. For **Claim 1**, Takeshita discloses, as shown in figures 1, 8, 14(a), 14(b), 15, 17(a), and 17(b) and as stated in columns 5 (lines 5 – 17 and 61 – 67), 6 (lines 10, 11, 26, 27, and 34 – 43), 8 (lines 5 – 30, 43 – 49, and 57 – 65), 9 (lines 13 – 18 and 33 – 37), 10 (lines 1 – 26 and 44 – 49), 11 (lines 8 – 18 and 35 – 37), and 12 (lines 1 – 10), a digital camera (see figure 15) comprising:

(a) a housing (fixed tube 2) having a lens barrel (comprised of first-lens group tube 3, second-lens group tube 9, and third lens group tube 15) movable along an optical axis;

(b) a zoom lens group (first-lens group 4, 5, and 6 and second-lens group 10, 11, and 12; see column 9, lines 13 – 37) and a focus lens group (third-lens group 16; see column 10, lines 20 – 26) movable relative to one another along the optical axis in the lens barrel;

(c) a zoom motor (DC motor 38; see column 9, lines 13 – 37; see column 10, lines 44 – 49) connected to the lens barrel (attached to driving ring 37; see figures 1 and 8) operable for moving the lens barrel to a position corresponding to a selected magnification;

(d) a focus motor (Stepping motor 24; see column 11, lines 8 – 12) connected to the focus lens group operable for moving the focus lens group to a focus position corresponding to the selected magnification (see column 10, lines 20 – 26 and 61 – 64);

(e) a lens cover (lens barrier 54) movable between closed (see figure 14(a)) and open (see figure 14(b)) positions for protecting at least one lens (at least the first-lens group 4, 5, and 6), and a lens cover driving motor (also the DC motor 38) connected to the lens cover (via the stepped part 37f of the driving ring 37), operable for moving the lens cover between closed and

open positions (see figures 8, 14(a), and 14(b); column 6, lines 34 – 43; and column 8, lines 5 – 30);

(f) an electric power source (Not specifically shown or stated; however, it is clearly necessary for operation; and thus, it is inherent an electric power source exists);

(g) a controller (control part 74) connected to the electric power source and controlling the zoom motor and the focus motor (see column 8, lines 43 – 49), and

(h) an image sensor (image sensor 32) supported in the housing (see any of figures 1 – 4) for receiving light through the lens groups, and operable for producing data in correspondence with light received through the lens groups for image recording.

Takeshita discloses, as shown in figures 17(a) and 17(b) and stated in columns 10 (lines 32 – 64) and 11 (lines 8 – 18), that upon power-up the controller operates the lens barrel (which is retracted in a stowage position; see figure 2) to drive the DC motor (38), which drives the driving ring (37) to simultaneously move the zoom lens group (first-lens group and second-lens group) and the lens barrier (54) to a stand-by state (see figure 3). Thereafter, the controller (74) drives the stepping motor (24) to move the focus lens group (third-lens group) to a stand-by state (see figure 4), wherein the camera is now ready for a photo-taking operation.

In addition, Takeshita also discloses, as stated in column 12 (lines 1 – 10), that the first-lens-group tube (3), the second-lens-group tube (9), and the third-lens-group tube (15) are arranged not to simultaneously move in drawing out the lens barrel to the photo-taking position or in drawing in the lens barrel to the stowage position; although, the first-lens-group tube (3), the second-lens-group tube (9), and the third-lens-group tube (15) may be made to

simultaneously move, if such a sequence of operations as to prevent those tubes from colliding with each other is adopted.

However, Takeshita still does not disclose wherein the controller determining during power initiation whether a voltage decrease from the electric power source during said operation of one of the lens cover driving motor and the zoom motor is less than a predetermined value, and if so, controlling the zoom motor and the focus motor to substantially overlap in operation to move the lens groups to initialization positions.

On the other hand, Anderson et al. also teach a digital camera with a controller, a zoom motor, a focus motor, and an electric power source. More specifically, as shown in figures 2, 3, 5, 6, 7A and 7B and as stated in columns 4 (lines 26, 37 – 39, 66, and 67), 5 (lines 1 – 14 and 64 – 67), 6 (lines 1 – 21), 7 (lines 30 – 34 and 37 – 43), 9 (lines 30 – 39, 53 – 58, and 64 – 67), and 10 (lines 1 – 5, 28 – 34, and 60 – 65), Anderson et al. teach that upon a power-on signal (steps 600 and 604), the voltage sensor (76) compares the power source (74) voltage with a threshold voltage, wherein if the power source voltage (74) is less than the threshold voltage, the controller changes the power state of the camera (Power State 5 → Power State 1), from a high power state to a low power state, until the power source (74) voltage exceeds the threshold voltage.

Furthermore, Anderson et al. teach that if the controller determines that is necessary to change the power state to Power State 3, the controller configures the zoom and focus motors (46) for sequential operation rather than simultaneous operation.

Thus, in regards to the claim language, Anderson et al. teach that if the decrease in voltage during power initiation exceeds a predetermined value (or rather in other words if the voltage value during motor operation exceeds the threshold voltage), the power state of the

camera does not need to be changed and the motors (46) are operated simultaneously and not sequentially.

As stated in column 2 (lines 42 – 47) of Anderson et al., at the time the invention was made, it would have been obvious to one with ordinary skill in the art to include simultaneous or sequential zoom and focus motor operation upon power initiation based upon the determined voltage of a power source, as taught by Anderson et al., in the digital camera with retractable lens barrel including a lens barrier, disclosed by Takeshita, for the advantage of automatically compensating for the effects of power supply degradation so as to optimizing camera performance.

9. As for **Claim 2**, as taught above, Anderson et al. teach sequential zoom and focus motor operation if the power source voltage does not exceed a threshold value (or rather the decrease in voltage due to the operation the motors exceeds a predetermined value). Anderson et al. does not specify which motor is to operate first, only that they operate sequentially.

10. As for **Claim 3**, as stated above, Takeshita disclose that upon power initiation, the zoom-lens group is first moved from a retracted position to a stand-by position and then the focus-lens group is moved from a retracted position to a stand-by position. Anderson et al. provides the differentiation between sequential and simultaneous motor operation based upon the determined power source voltage upon power initiation.

11. For **Claim 11**, Takeshita discloses, as shown in figures 1, 8, 14(a), 14(b), 15, 17(a), and 17(b) and as stated in columns 5 (lines 5 – 17 and 61 – 67), 6 (lines 10, 11, 26, 27, and 34 – 43), 8 (lines 5 – 30, 43 – 49, and 57 – 65), 9 (lines 13 – 18 and 33 – 37), 10 (lines 1 – 26 and 44 – 49), 11 (lines 8 – 18 and 35 – 37), and 12 (lines 1 – 10), a method for activating a digital camera

having a zoom (4, 5, and 6) and focus lens group (15) respectively driven by a zoom and focus motor (38 and 24), a lens cover (54) driven by a lens cover driving motor (also 38), and a power source (not specifically shown or stated but inherent).

Takeshita discloses, as shown in figures 17(a) and 17(b) and stated in columns 10 (lines 32 – 64) and 11 (lines 8 – 18), that upon power-up the controller operates the lens barrel (which is retracted in a stowage position; see figure 2) to drive the DC motor (38), which drives the driving ring (37) to simultaneously move the zoom lens group (first-lens group and second-lens group) and the lens barrier (54) to a stand-by state (see figure 3). Thereafter, the controller (74) drives the stepping motor (24) to move the focus lens group (third-lens group) to a stand-by state (see figure 4), wherein the camera is now ready for a photo-taking operation.

In addition, Takeshita also discloses, as stated in column 12 (lines 1 – 10), that the first-lens-group tube (3), the second-lens-group tube (9), and the third-lens-group tube (15) are arranged not to simultaneously move in drawing out the lens barrel to the photo-taking position or in drawing in the lens barrel to the stowage position; although, the first-lens-group tube (3), the second-lens-group tube (9), and the third-lens-group tube (15) may be made to simultaneously move, if such a sequence of operations as to prevent those tubes from colliding with each other is adopted.

However, Takeshita still does not disclose wherein the controller determining during power initiation whether a voltage decrease from the electric power source during said operation of one of the lens cover driving motor and the zoom motor is less than a predetermined value, and if so, controlling the zoom motor and the focus motor to substantially overlap in operation to move the lens groups to initialization positions.

On the other hand, Anderson et al. also teach a digital camera with a controller, a zoom motor, a focus motor, and an electric power source. More specifically, as shown in figures 2, 3, 5, 6, 7A and 7B and as stated in columns 4 (lines 26, 37 – 39, 66, and 67), 5 (lines 1 – 14 and 64 – 67), 6 (lines 1 – 21), 7 (lines 30 – 34 and 37 – 43), 9 (lines 30 – 39, 53 – 58, and 64 – 67), and 10 (lines 1 – 5, 28 – 34, and 60 – 65), Anderson et al. teach that upon a power-on signal (steps 600 and 604), the voltage sensor (76) compares the power source (74) voltage with a threshold voltage, wherein if the power source voltage (74) is less than the threshold voltage, the controller changes the power state of the camera (Power State 5 → Power State 1), from a high power state to a low power state, until the power source (74) voltage exceeds the threshold voltage.

Furthermore, Anderson et al. teach that if the controller determines that is necessary to change the power state to Power State 3, the controller configures the zoom and focus motors (46) for sequential operation rather than simultaneous operation.

Thus, in regards to the claim language, Anderson et al. teach that if the decrease in voltage during power initiation exceeds a predetermined value (or rather in other words if the voltage value during motor operation exceeds the threshold voltage), the power state of the camera does not need to be changed and the motors (46) are operated simultaneously and not sequentially.

As stated in column 2 (lines 42 – 47) of Anderson et al., at the time the invention was made, it would have been obvious to one with ordinary skill in the art to include simultaneous or sequential zoom and focus motor operation upon power initiation based upon the determined voltage of a power source, as taught by Anderson et al., in the digital camera with retractable lens barrel including a lens barrier, disclosed by Takeshita., for the advantage of automatically

compensating for the effects of power supply degradation so as to optimizing camera performance.

12. As for **Claims 12 and 13**, as stated in regards to Claim 11, determining whether there is a decrease a previous voltage level is less than a predetermined amount and determining whether a current voltage level exceeds a predetermined threshold value is substantively the same operation. Therefore, Anderson et al., as stated above, chooses between sequential motor operation and simultaneous motor operation based upon the result of the determination. In Claim 11, if the decrease is less than a predetermined amount (or rather exceeds a threshold voltage), then simultaneous operation is chosen and, in Claim 12, if the decrease is greater than an unrelated (as claimed) predetermined value (or rather does not exceed a threshold voltage), then sequential operation is chosen. Since, Takeshita provides a clear description of the lens barrel operation, Takeshita clearly discloses, that in sequential operation the zoom motor is first driven followed by the driving of the focus motor.

13. As for **Claim 16**, Anderson et al. teach that upon a power-on signal (steps 600 and 604), the voltage sensor (76) compares the power source (74) voltage with a threshold voltage, wherein if the power source voltage (74) is less than the threshold voltage, the controller changes the power state of the camera (Power State 5 → Power State 1), from a high power state to a low power state, until the power source (74) voltage exceeds the threshold voltage, and that when the camera is connected to an AC power source, via power source (74), the controller always keeps the camera in the highest power state (Power State 5). Furthermore, Anderson et al. teach that only when the camera is in Power States 1 – 3 does the controller configure the zoom and focus

motors (46) for sequential operation rather than simultaneous operation (as in Power State 5; see column 10, lines 1 – 5).

14. As for **Claim 17**, Anderson et al., as stated above, teach that that when the camera is connected to an AC power source, via power source (74), the controller always keeps the camera in the highest power state (Power State 5). Furthermore, Anderson et al. teach that upon a power-on signal (steps 600 and 604), the voltage sensor (76) compares the power source (74) voltage with a threshold voltage, wherein if the power source voltage (74) is less than the threshold voltage, the controller changes the power state of the camera (Power State 5 → Power State 1), from a high power state to a low power state, until the power source (74) voltage exceeds the threshold voltage. Therefore, since the test to determine whether an AC source is connected to the camera is by constantly monitoring the power source via the voltage sensor, the controller does in fact determine whether or not an AC power source is connected to the internal power source on the basis of the power source voltage value during power initiation and a whether that voltage value becomes weaker.

15. As for **Claim 18**, Anderson et al. teach, as stated in column 7 (lines 55 – 65), the minimum voltage for the entire camera is 4.8 volts (the threshold voltage for Power State 1), since, when the camera is connected to an AC power source, the camera is in Power State 5 and since, Power State 5 is a much higher power state than Power State 1, it must be true that the threshold for Power State 5 is higher than 4.8 volts, and according, 2.9 volts (as required by the claim language).

16. **Claims 4, 14, 19, and 20** are rejected under 35 U.S.C. 103(a) as being unpatentable over Takeshita in view of Anderson et al. in further view of Kijima et al.

17. As for **Claims 4, 14, 19, and 20**, while Takeshita disclose a controller, Takeshita does not disclose wherein the controller has a clock, the controller connected to the electric power source and controlling the image reading element, the controller determining an amount of electric energy available from the power source based on at least one of a power source voltage value during power initiation and a voltage decrease when one of the motors is operated, and when the electric energy available is determined to be less than a predetermined amount, the controller setting a lower clock speed.

On the other hand, Kijima et al. also disclose a digital camera with an image sensor, a lens barrel with focus and zoom lenses connected to a motor, an electric power source, and a controller. More specifically, Kijima et al. teach, as stated in columns 10 (lines 33 – 39), 11 (lines 47 – 67), 12 (lines 1 – 44, 66, and 67), and 13 (lines 1 – 13), of connecting a battery checker (27), which checks the residual capacity of a battery power source, to a CPU (18). The CPU (18) controls the signal generator clocking device (17), according to the output of the battery checker (27), to change a sweep out frequency of the image sensor from a higher frequency (f1) to a lower frequency (f2) or vice versa. When the battery becomes lower than predetermined value the frequency is changed to a lower frequency (f1 → f2). In regards to the claim language, at power-on, during initialization, the controller (with signal generator clocking device 17) constantly monitors the battery, such that when the residual battery drops below a predetermined value, the controller controls to the signal generator clocking device (17) change

the operating frequency of the image sensor to a lower operating frequency; thereby effectively setting a lower clock speed.

As stated in column 13 (lines 8 – 12), at the time the invention was made, one with ordinary skill in the art would have been motivated to include a controller, with a clock, that sets a lower clock speed based upon residual battery capacity, as taught by Kijima et al., in the digital camera disclosed by Takeshita in view of Anderson et al., as a means to permit battery life extension and prevent the camera system from stopping. Therefore, at the time the invention was made, it would have been obvious to one with ordinary skill in the art to have include a controller, with a clock, that sets a lower clock speed based upon residual battery capacity, as taught by Kijima et al., in the digital camera disclosed by Takeshita in view of Anderson et al.

Allowable Subject Matter

18. **Claim 15** is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The following is a statement of reasons for the indication of allowable subject matter:

As for **Claim 15**, the closest prior art teaches and fairly suggests a power initiation sequence that moves a lens barrel from a retracted position to an extended position (i.e. initialization position), via a DC motor and a stepping motor, wherein the lens barrel includes a lens cover, a zoom lens group, and a focus lens group, wherein the power initiation sequence a controller determines an appropriate power state of a plurality of power states for operating the

camera wherein one of said power states includes a power state for operating DC and stepping motors simultaneously.

However, the closest prior art does not teach or fairly suggest wherein the controller stops the motor for the focus lens group when the power source voltage level is less than a predetermined value during the simultaneous operation of a zoom lens group motor and the focus lens group motor.

Conclusion

19. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Justin P Misleh whose telephone number is 571.272.7313. The Examiner can normally be reached on Monday through Thursday from 7:30 AM to 5:00 PM and on alternating Fridays from 8:00 AM to 4:30 PM.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Wendy R Garber can be reached on 571.272.7308. The fax phone number for the organization where this application or proceeding is assigned is 703.872.9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JPM
June 11, 2005

AUNG MOE
PRIMARY EXAMINER